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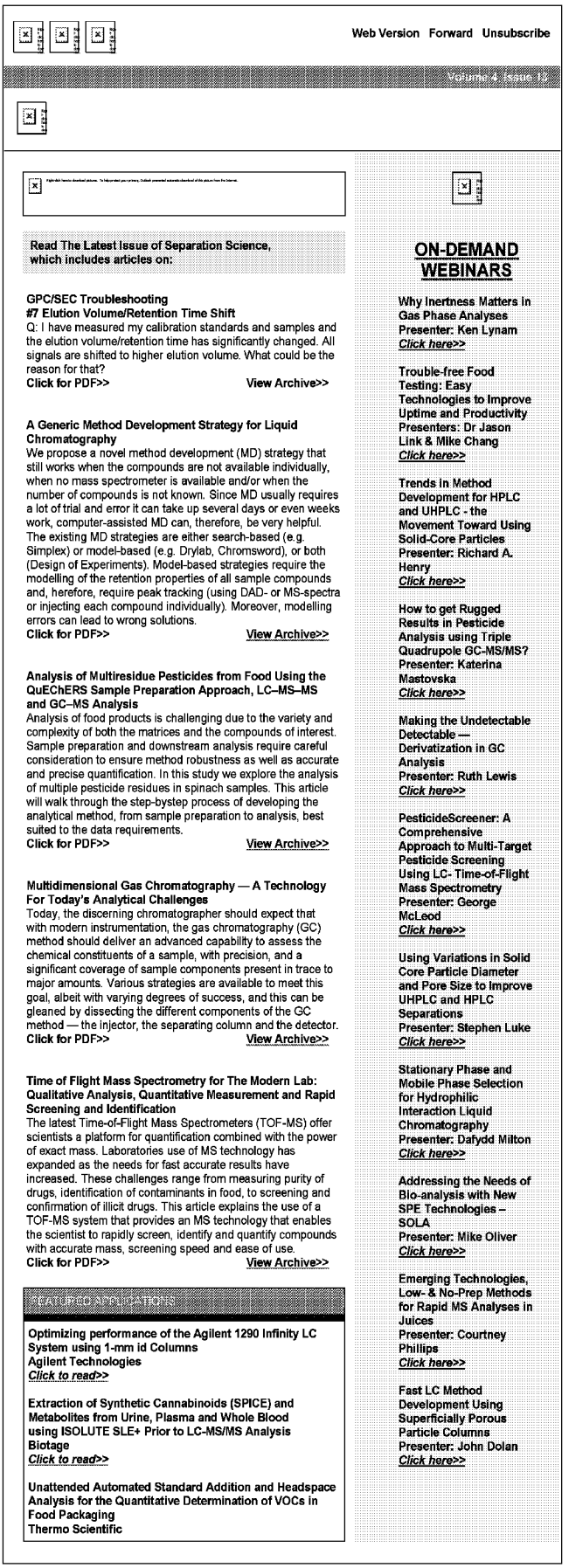
From: Separation Science e-Learning <noreply@sepscience.com>
Sent: Monday, December 03, 2012 1:07 PM
To: Hanchett, James (DPH)
Subject: Today in Separation Science - Latest Issue of Separation Science



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Volume 4, Issue 12

Read The Latest Issue of Separation Science, which includes articles on:

GPC/SEC Troubleshooting
#7 Elution Volume/Retention Time Shift
Q: I have measured my calibration standards and samples and the elution volume/retention time has significantly changed. All signals are shifted to higher elution volume. What could be the reason for that?
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A Generic Method Development Strategy for Liquid Chromatography
We propose a novel method development (MD) strategy that still works when the compounds are not available individually, when no mass spectrometer is available and/or when the number of compounds is not known. Since MD usually requires a lot of trial and error it can take up several days or even weeks work, computer-assisted MD can, therefore, be very helpful. The existing MD strategies are either search-based (e.g. Simplex) or model-based (e.g. Drylab, Chromsword), or both (Design of Experiments). Model-based strategies require the modelling of the retention properties of all sample compounds and, herefore, require peak tracking (using DAD- or MS-spectra or injecting each compound individually). Moreover, modelling errors can lead to wrong solutions.
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Analysis of Multiresidue Pesticides from Food Using the QuEChERS Sample Preparation Approach, LC–MS–MS and GC–MS Analysis
Analysis of food products is challenging due to the variety and complexity of both the matrices and the compounds of interest. Sample preparation and downstream analysis require careful consideration to ensure method robustness as well as accurate and precise quantification. In this study we explore the analysis of multiple pesticide residues in spinach samples. This article will walk through the step-bystep process of developing the analytical method, from sample preparation to analysis, best suited to the data requirements.
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Multidimensional Gas Chromatography — A Technology For Today's Analytical Challenges
Today, the discerning chromatographer should expect that with modern instrumentation, the gas chromatography (GC) method should deliver an advanced capability to assess the chemical constituents of a sample, with precision, and a significant coverage of sample components present in trace to major amounts. Various strategies are available to meet this goal, albeit with varying degrees of success, and this can be gleaned by dissecting the different components of the GC method — the injector, the separating column and the detector.
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Time of Flight Mass Spectrometry for The Modern Lab: Qualitative Analysis, Quantitative Measurement and Rapid Screening and Identification
The latest Time-of-Flight Mass Spectrometers (TOF-MS) offer scientists a platform for quantification combined with the power of exact mass. Laboratories use of MS technology has expanded as the needs for fast accurate results have increased. These challenges range from measuring purity of drugs, identification of contaminants in food, to screening and confirmation of illicit drugs. This article explains the use of a TOF-MS system that provides an MS technology that enables the scientist to rapidly screen, identify and quantify compounds with accurate mass, screening speed and ease of use.
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Thermo Scientific

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